REMARKS/ARGUMENTS

Claims 1-53 were pending. In this amendment, no claims are canceled and claims 2, 14, 23 and 34 are amended. Thus, following this amendment, claims 1-53 will remain pending.

In the Office Action, the Examiner objected to the specification, objected to some claims as being informal in view of typographical errors, rejected some claims under 35 USC §112, first paragraph, rejected some claims over cited references, objected to some claims as being allowable if rewritten in independent form and allowed other claims. Each of these objections and rejections are addressed herein.

As for the objections to the specification and claims 2, 14, 23 and 34 as being informal, Applicant appreciates the Examiner's careful review of the application and suggested amendments. Each of Examiner's suggestions has been adopted and additional typographical errors are corrected. Amendments to the figures are also submitted to conform Fig. 12 to the specification as originally filed.

As to the rejection of claims 5 and 29 under §112, first paragraph, the rejection is respectfully traversed. As to the assertion that claims 5 and 29 (reciting that N can be less than K) are not supported by the specification as filed, the Examiner's attention is directed to paragraphs 167-168 of the specification, which Applicant submits is sufficient support for a claim element reciting that N can be less than K.

Applicant notes with appreciation the Examiner's allowance of claims 36-49 and 51-53 and the indication of allowability of claims 9-14, 18-25, 31 and 34-35 and if rewritten in independent form. Since Applicant respectfully traverses the rejection of each of the rejected claims over the cited references, Applicant declines to amend the objected-to claims.

Claims 1-8, 15-17, 26-30, 32-33 and 50 were rejected over cited references. In particular, claims 1-3, 6-7, 26-27, 30, 32 and 50 were rejected under 35 USC §102(b) as being anticipated by Wolf (U.S. Patent 5,983,383), claims 4-5, 15-17, 28-29 were rejected under 35 USC §103(a) as being unpatentable over Wolf, and claims 8 and 33 were rejected under 35 USC §103(a) as being unpatentable over Wolf in view of Dillon et al. (U.S. Patent

6,430,233). For least the reasons stated below, Applicant respectfully request reconsideration and withdrawal of the §§102/103 rejections.

Of the pending claims, claims 1, 27 and 50 are the independent claims rejected by the Examiner. Since a dependent claim depending from an allowable independent claim is also allowable over the cited references, the separate allowability of each dependent claim need not be argued even though a number of the rejected dependent claims include additional novel elements.

Claim 1 is allowable over the cited references as those references, alone or in combination, fail to disclose or suggest each element of claim 1. For example, claim 1 recites "generating a plurality of outputs symbols from a combined set of symbols...wherein the number of possible outputs symbols is much larger than the number of symbols in the combined set of symbols".

The Examiner cited convolutional encoder 28 as a generator of output symbols wherein the number of possible output symbols is larger than the number of input symbols. It is true that for a convolutional encoder of rate less than R=1, the number of possible output symbols is larger than the number of input symbols. In one example used in Wolf, R=1/2 and twice as many output symbols are generated for a set of input symbols. As the rate goes down, the ratio of output symbols to input symbols would go up, but for practical convolutional encoders the rate is set at some value that determines the number of possible output symbols for a set of input symbols, but that number is not much larger than the number of input symbols.

As explained in the specification, in one embodiment, a dynamic encoder generates output symbols and can generate a stream of output symbols that is not limited by some rate that determines the number of possible outputs symbols for a set of input symbols. Without such a limit, the number of outputs symbols can be much larger than the number of input symbols. As further explained in the specification, one advantage of not having such a limit is that a maximum acceptable error rate need not be determined ahead of time. With fixed rate codes, convolutional coders and the like, there is a maximum acceptable error rate and if that error rate is exceeded, decoding will fail.

Applicant submits that practical convolutional encoders do not allow for the number of possible output symbols to be much larger than the number of input symbols and in any case, Wolf does not disclose or suggest such a convolutional encoder. Applicant submits that Dillon does not make up for the deficiencies of Wolf. Therefore, claim 1 is allowable over the cited references.

Applicant submits that claims 2-26, being dependent on allowable claim 1, are also allowable.

Claim 27 is also allowable over the cited references as those references, alone or in combination, fail to disclose or suggest each element of claim 27. For example, claim 27 recites "a dynamic encoder...including an output symbol generator that generates a plurality of output symbols from a combined set of symbols...wherein the number of possible output symbols is much larger than the number of symbols in the combined a set". For reasons similar to those of cited above in connection with claim 1, Applicant submits that neither Wolf nor Dillon, alone or in combination, disclose or suggest such a dynamic encoder with the claimed output symbol generator.

Therefore, claim 27 is allowable over the cited references and claims 28-35, being dependent on allowable claim 27, are also allowable.

Claim 50 is also allowable over the cited references as those references, alone or in combination, fail to disclose or suggest each element of claim 50. For example, claim 50 recites a plurality of output symbols representing symbols generated from a combined set of symbols wherein the number of possible outputs symbols is much larger than the number of symbols in the combined set of symbols. For reasons similar to those of cited above in connection with claim 1, Applicant submits that neither Wolf nor Dillon, alone or in combination, disclose or suggest such a plurality of output symbols. It should be apparent from the teachings of Wolf and of Dillon that with a fixed rate code, the practicality of the encoder and the decoder normally require that the number of possible output symbols not be much larger than the number of input symbols.

Therefore, Applicant submits that claim 50 is allowable over the cited references.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

Date: 7/31/03

Philip H. Albert
Reg. No. 35,819

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: 415-576-0200
Fax: 415-576-0300
PHA:blj
11462820 v1